



Munitions Workers Study

A University of Iowa Study
of DoD Contract Workers

Study Overview

IAAAP Background

The Iowa Army Ammunition Plant (IAAAP) is a 19,000-acre operational load, assembly and pack munitions facility located in Middletown, Iowa, about 10 miles west of Burlington. Built between 1941 and 1943, the IAAAP has produced conventional missile warheads and a variety of large caliber tank ammunitions, mines, mortars, artillery, demolition charges, and weapons' component parts. In addition, it is designated as the Midwest Area Demilitarization Facility for disposing of old and/or obsolete ammunition.

In 1947, the IAAAP was designated as the first plant in the nation to assemble atomic weapons for the Atomic Energy Commission (AEC). For nearly three decades, conventional and nuclear weapons were manufactured at the plant under separate U.S. DoD and AEC contracts. In 1975, production of nuclear weapons was terminated and transferred to Amarillo, Texas.

It is estimated that the workforce, servicing conventional weapons' lines, varied in numbers from 15,000 around WWII, 7,500 during the Korean conflict, to 5,500 during the Vietnam conflict. Employment at IAAAP remained around 2,000 through most of the 1980s. The current workforce stands at approximately 850.

Study Background

The health of workers in the munitions industry has been a concern over many years, however, relatively few studies have examined the health risks associated with munitions work. Throughout the munitions industry, workers are likely exposed to a variety of toxic agents, including explosives, solvents, metals, depleted uranium, asbestos, radiographic sources, and numerous others.

In addition to these general concerns, current and former workers at the IAAAP have expressed concern about potential beryllium (Be) exposure from grinding or sanding Be alloy tools, such as hammers, punches, and chisels. Grinding and sanding of Be alloy tools reportedly occurred by millwrights, tool and die workers, and others.

The congressionally-mandated IAAAP Munitions Workers Study is an epidemiological health study being carried out by researchers at the University of Iowa College of Public Health, under contract to the U.S. Department of Defense. Over a period of approximately five years, the study will attempt to determine whether or not munitions-related work conducted at the IAAAP and similar facilities increased the mortality (death) or cancer incidence rate for either former or current workers. In addition, study investigators will try to determine if workers exposed to Be in the form of sanded or ground Be alloy tools have experienced an increase in Be sensitization (BeS). It is one of the largest studies to date to review the health concerns of workers in the munitions industry. Please refer to the Specific Aims box on the reverse side of this fact sheet for details on how the study will be carried out and how results will be used.

Specific Aims

Aim I. Determine whether mortality (death) rates of IAAAP workers are higher than expected.

Researchers will analyze U.S. and Iowa death records to determine whether overall mortality or cause-specific mortality (e.g., diseases of the heart, liver, kidney, lung, etc.) rates are higher among IAAAP workers. This aim will help determine whether or not IAAAP operations contributed to increases in mortality among workers. In addition, the findings may provide information on previously unrecognized hazards, so appropriate workplace interventions can be made and medical screening services provided.

Aim II. Determine whether IAAAP workers experience higher cancer rates compared to other Iowans.

Researchers will analyze Iowa cancer records to determine whether IAAAP workers are at higher risk for overall cancer incidence as well as certain site-specific cancers, compared to unexposed Iowa workers. This aim will help determine whether or not IAAAP operations contributed to increases in cancer incidence among workers. In addition, the findings may provide information on previously unrecognized hazards, so appropriate workplace interventions can be made and medical screening services provided.

Aim III. Determine whether IAAAP workers are at higher risk for beryllium sensitization (BeS) compared to a non-beryllium-exposed population.

Researchers will determine the prevalence of and risk factors for BeS by testing a subset of current and former workers who represent different job categories, work practices, and job descriptions. Selected individuals will be asked to provide blood specimens to be analyzed for BeS. This aim will help assess what job categories and tasks were at risk for BeS, and if cases of chronic beryllium disease have occurred in the IAAAP workforce. The study will offer medical evaluation to those workers with confirmed BeS.

Community Advisory Board

A Community Advisory Board (CAB) serves as a vehicle for two-way communications between the IAAAP Munitions Workers Study team and various community stakeholders. The CAB advises and assists the study by ensuring that community issues and concerns related to the health of former and current DoD workers at IAAAP are identified and addressed. The CAB also affords community members an opportunity to participate in a meaningful and constructive manner, and facilitates the dissemination of information to the general public. The CAB meets semi-annually in the Burlington area. Meetings are open to the public.

Study Contact Information

The IAAAP Munitions Workers Study is being led by principal investigator Laurence J. Fuortes, M.D., professor of occupational and environmental health, and co-principal investigator R. William Field, Ph.D., associate professor of occupational and environmental health and epidemiology.

Offices:

IAAAP Munitions Workers Study
Department of Occupational and Environmental Health
The University of Iowa
W310 Oakdale Hall
100 Oakdale Campus
Iowa City, IA 52242-5000
Telephone: 866-282-5818
Website: